

# Disparities in mortality and pre-death patterns of HIV care among HIV-positive New Yorkers who did or did not receive Ryan White Part A services

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## Introduction

- Federal Ryan White Part A (RWPA) funds support medical and social services for low-income persons with HIV (PWH).
- The HIV Mortality Reduction Continuum of Care (HMRCC) describes pre-death patterns of HIV care among New York City (NYC) PWH<sup>1</sup>.
  - For this project, the HMRCC was applied to RWPA versus non-RWPA PWH in NYC.
- Age-adjusted mortality rate disparities between RWPA and non-RWPA PWH were assessed by demographic subgroup.

## Methodology

### Data Sources

- The NYC HIV Surveillance Registry (the “Registry”)**
  - Demographic, clinical, and vital status records of all NYC PWH
  - All HIV-related laboratory tests ordered by NYC clinical providers
- The Electronic System for HIV/AIDS Reporting and Evaluation (eSHARE)**
  - Services data for PWH served by RWPA in NYC since 2011

### Client Population

- The broader population included 5,644 NYC residents who died in 2013-2016 and were diagnosed with HIV before death.
- 2,113 PWH (37% of all deaths) who received  $\geq 1$  RWPA service since 2011 were classified as RWPA PWH.
- PWH diagnosed at least 15 months prior to death were eligible for inclusion in the HMRCC analyses (N=5,421).

### HMRCC Measures

- Intervenable Period (IP):** The period between fifteen and three months prior to death, for which clinical outcomes were measured
- Ever linked to HIV care after diagnosis:** Any CD4 or viral load test  $\geq 8$  days after HIV diagnosis
- Presumed ever on ART:** Any viral load  $\leq 200$  copies/mL between 2001 (or HIV diagnosis date, if later) to 3 months prior to death
- Retained in care in IP:**  $\geq 2$  CD4 or viral load tests  $\geq 90$  days apart
- Below transmission threshold in IP:** Result  $\leq 1500$  copies/mL on most recent viral load
- Virally suppressed in IP:** Result  $\leq 200$  copies/mL on most recent viral load

### Mortality Rate Disparities Measures

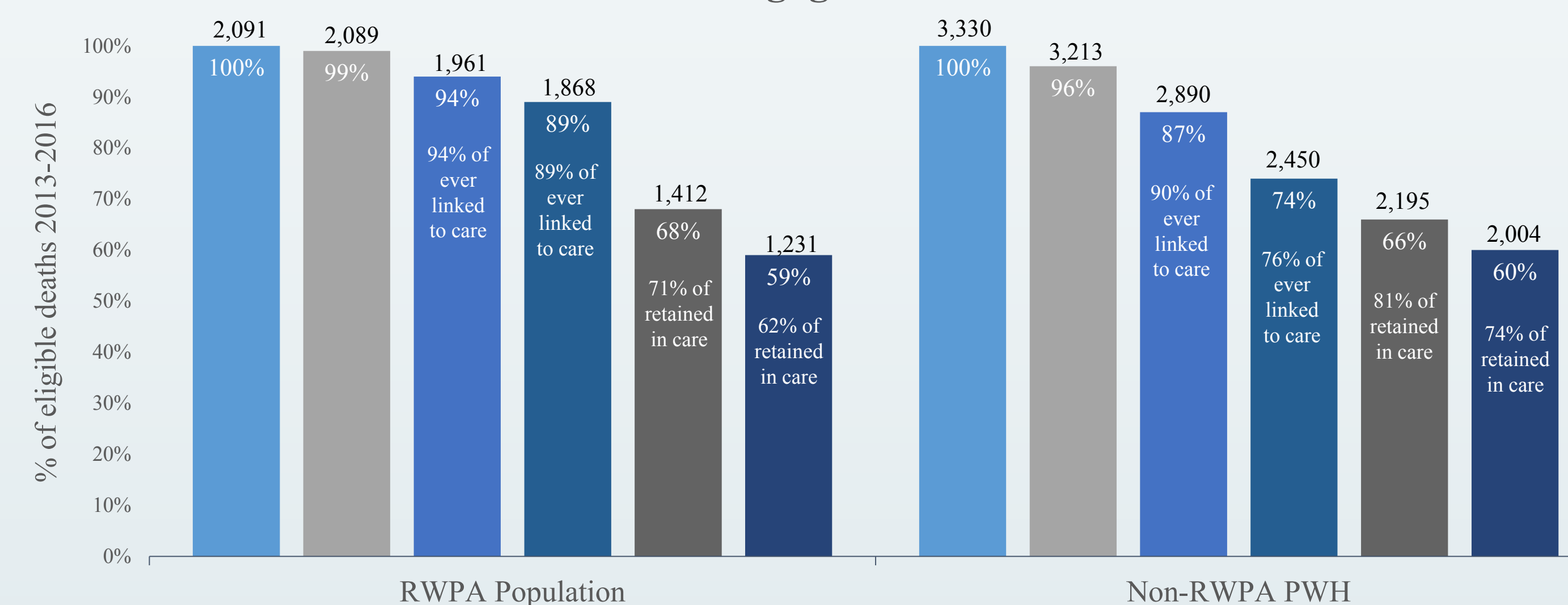
- Average age-adjusted mortality rates per 1,000 PWH alive as of the end of 2014 (the middle of the analytic period) were calculated using all deaths 2013-2016 and age-adjusted to the NYC Census 2010 population.
- A “mortality disparity” metric was calculated by subtracting the age-adjusted mortality rate for RWPA PWH from the rate for non-RWPA PWH.

## Characteristics of NYC decedents 2013-2016, diagnosed with HIV prior to death (N=5,644)

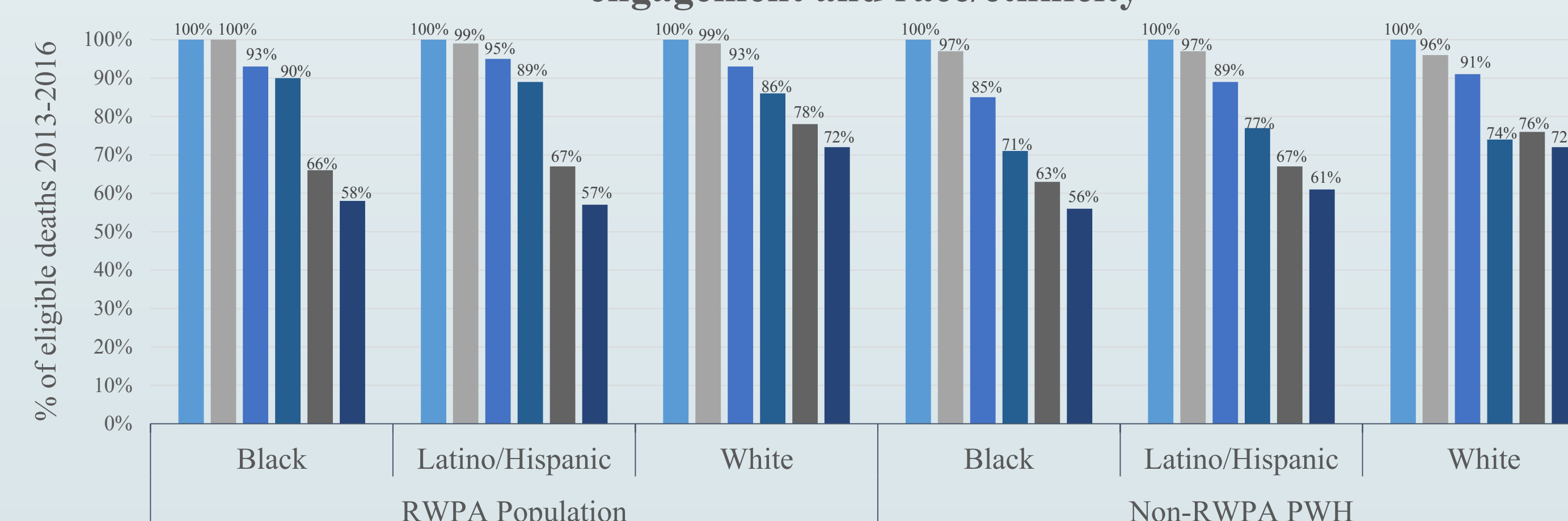
Sex at Birth		Race/Ethnicity				Age Group at Death					
Male	Female	Black	Latino/Hispanic	White	Other	13-19	20-29	30-39	40-49	50-59	60+
69.5%	30.5%	50.8%	35.0%	12.5%	1.7%	<0.1%	2.1%	5.5%	17.2%	37.2%	38.0%
Year of HIV Diagnosis					Transmission Risk Factor						
$\leq 1996$	1997-2000	2001-2005	2006-2010	$\geq 2011$	Men who have sex with men (MSM)	Injection drug use history (IDU)	MSM-IDU	Heterosexual contact	Transgender people with sexual contact	Perinatal	Other/Unknown
40.5%	22.4%	18.8%	10.4%	7.8%	19.6%	30.5%	3.8%	20.3%	0.5%	0.9%	24.6%

## Results- HMRCC

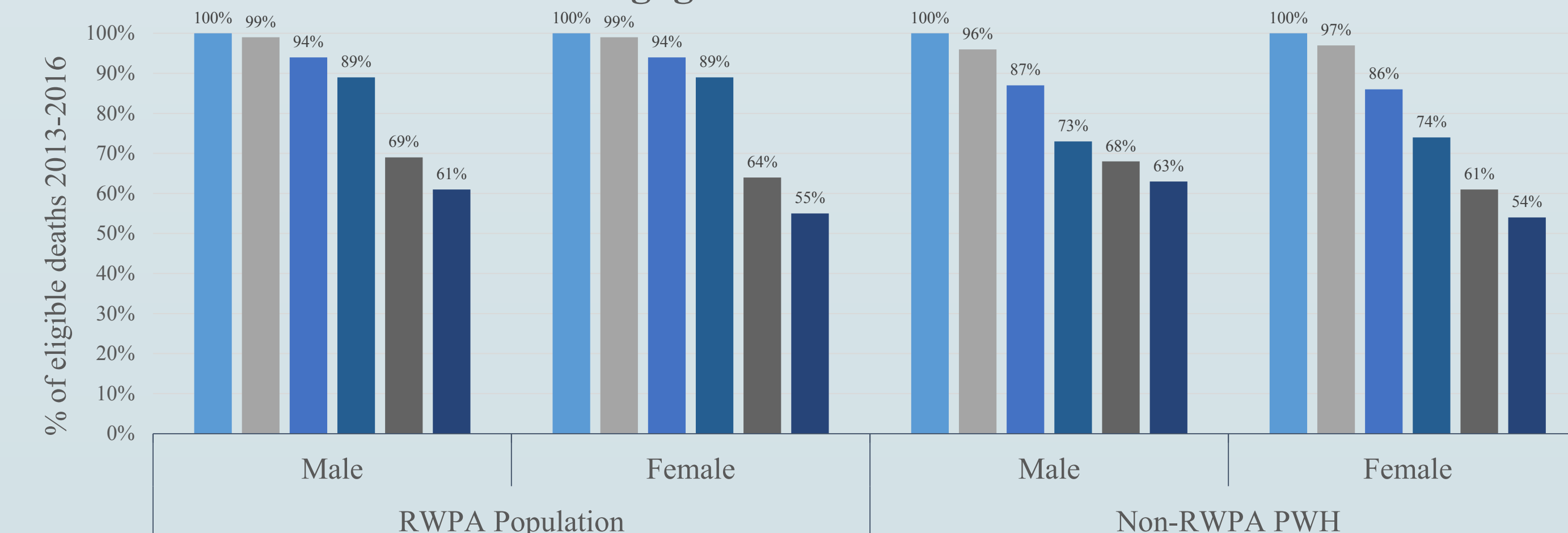
Continuum of care among NYC PWH who died 2013-2016, by RWPA engagement



Continuum of care among NYC PWH who died 2013-2016, by RWPA engagement and race/ethnicity



Continuum of care among NYC PWH who died 2013-2016, by RWPA engagement and sex at birth



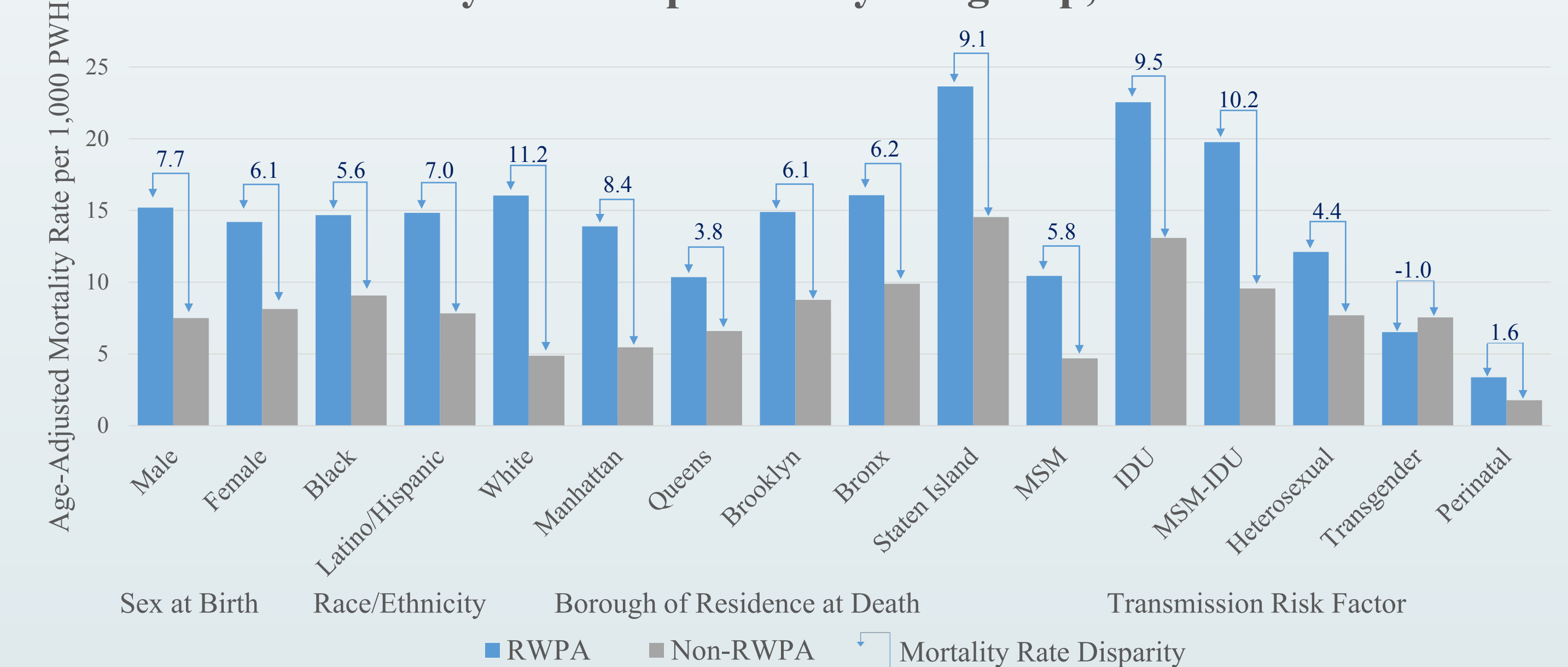
Legend: Stages in the Continuum of Care



## Results- Mortality Rate Disparities

- Age-adjusted mortality rate per 1,000 RWPA PWH = **14.75**
- Age-adjusted mortality rate per 1,000 non-RWPA PWH = **7.70**
- Overall mortality rate disparity = 7.05**

Mortality Rate Disparities by Subgroup, 2013-2016



## Conclusions

- NYC RWPA and non-RWPA PWH experience between- and within-group disparities in mortality and pre-death care patterns.
- Although RWPA clients had higher treatment initiation and care retention than non-RWPA PWH, pre-death viral load outcomes were similar.
- Despite similar retention in care, a greater proportion of White PWH were virally suppressed compared to Black and Latino/Hispanic PWH in both RWPA and non-RWPA decedent groups.
- Females also had lower rates of viral suppression than males in both groups.
- Future research should incorporate cause of death data to examine patterns of pre-death care for HIV-related deaths among RWPA and non-RWPA PWH.
  - This would allow for more focused identification of missed opportunities in HIV care and potential disparities in quality of care received.

### Contact

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<sup>1</sup>Braunstein SL, Robbins RS, Daskalakis DC (2017). Missed Opportunities: Adapting the HIV Care Continuum to Reduce HIV-Related Deaths. *Journal of Acquired Immune Deficiency Syndromes*, 76(3), 231-240.